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VELIČEKOVSKIY, B.T.; KATSNEI'SON, B.A. (Sverdlovsk)

Some theoretical and experimental prerequisites for the study of
the pathogenesis of silicosis. Arkh. pat. 26 no. 610-25 1961.
(MIKA 18-12)

1. Institut gigiyeny truda i professional'nykh zabolivenii,
Sverdlovsk. Submitted June 4, 1962.

KATSNEL'SON, B.A.; BABUSHKINA, L.G.; VELIKHOVSKIY, B.T.

Changes in the total lipid content in the lung of rats with experimental silicosis. Blul. eksp. biol. i med. 57 no.6:49-54 Je '64.
(MIRA 18:4)

1. Institut gigiyeny truda i professional'noy patologii (dir. -
kand. biol. nauk V.A.Mikhaylov), Sverdlovsk.

L 29355-66

ACC NR: AP6017502

SOURCE CODE: UR/0219/66/061/005/0040/0043

AUTHOR: Katsnel'son, B. A.; Babushkina, L. G.

22

B

ORG: Sverlovsk Institute of Industrial Hygiene and Occupational Pathology
(Sverdlovskiy institut gigiyeny truda i proftatologii)

TITLE: Acclimatization of white rats to effect of unfavorable, intermittent, chronic temperatures

22

SOURCE: Byulleten' eksperimental'noy biologii i meditsiny, v. 61, no. 5, 1966, 40-43

TOPIC TAGS: heat effect, cold effect, temperature acclimatization, lipid metabolism, rat

ABSTRACT: White rats were subjected to chronic heat (38—40°C) or cold (7—8°C) for 5—6 hr per day for periods ranging from 2 to 6 months. TEMP-4 thermistors were used to measure rectal and tail surface temperatures. The kidneys, adrenals, spleen, liver, and lungs of killed animals were weighed and lipid content of the last two organs was determined. During the first 10 days of daily exposure to heat, the average rectal temperatures for the group rose 1.1°C. During 24 days of the 6th month the group's average rectal temperature showed little if any rise and occasionally dropped 0.4—2.4°C below normal, indicating that adaptation had taken place. Tail surface temperatures rose on the average 2.6°C during the first 10 days and 4.8°C during 24 days of the 6th month. When exposed to cold, rectal temperatures dropped

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UDC: 613.11:613.166]-092.9

L 29355-66

ACC NR: AP6017502

2.1C during the first 10 days. Two weeks later the average drop was 1C. Tail surface temperature dropped 6.5C on the average. Weights of the experimental animals and of their lungs, liver, kidneys, and spleen did not differ significantly from controls. However, the weight of adrenals of animals exposed to heat was 210% as compared to controls after 2 months, 170% after 4 months, and 145% after 6 months. Similar figures for animals exposed to cold were 121%, 138%, and 96%. No significant changes in the lipid content of the lungs were observed in animals exposed to cold. When animals were exposed to heat, the lipid content of the lungs was somewhat greater than controls at the end of 2 months but tended to even out after 6 months. The lipid content of the kidneys showed little change at first but tended to drop significantly less than controls at the end of 6 months. [BM]

SUB CODE: 06/ SUBM DATE: 17Apr64/ ORIG REF: 003/ OTH REF: 017/ ATD PRESS: 5009

Cord 2/2 CC

TA 1/49T40

KATSNEL'SON, B. D.

USER/Engineering

Pyrometer

Thermocouples

Jan/Feb 48

"Compensating Pyrometer With an Adjustable Thermocouple," B. D. Katsnel'son, Cand Tech Sci, and V. V. Pomerantsev, Cen Sci Res Turboboiler Inst imeni I. I. Polzunov, 3 PP

"Motloturbostroye" No 1 - p. 19-31

Discusses construction principles of subject pyrometer. Tests showed this instrument capable of measurements with high precision. It should be useful in a wide field of technology.

1/49T40

1972. COEFFICIENT OF HEAT EMISSION FROM A STREAM OF PARTICLES. Kntanel'son, B. D. and Timofeeva, F. A. (Kotloturbostroenie (Boiler and Turbine Manuf.), Sept.-Oct. 1948, (6), 16-22). The authors state that heat-exchange between a gas and particles plays an important part in industry and that there are adequate data for calculating this heat-exchange by convection under constant conditions. But that in many cases (e.g. the combustion of pulverised and liquid fuels) the process is so rapid that the temperature field in the boundary film around the particle does not have time to become stable. In such cases the coefficient of heat emission will not be constant, but will change its value in the course of time. In the majority of problems, where types of heat-exchange other than convection do not play an important part, by far the greatest intensity of heat exchange at the surface occurs at the start of the greatest intensity of heat exchange at the surface occurs at the start of the process. As the process continues the intensity will decrease gradually until it approximates to the value corresponding to constant conditions. In these cases, problems of varying exchange assume the chief significance. To investigate this type of exchange the authors made experiments, not

with the exchange of heat from particles to a gas, but with the exchange of substance from solid particles to a liquid. They dropped spherical particles of sodium chloride into a column of water and measured the rate of dissolution. They varied conditions by altering the size of particles and the temperature of the water, and by dissolving glycerine in the water. From these experiments and from existing data they derive curves and equations giving relations between Nusselt, Prandtl and Reynolds values over a wide range both under constant and under varying conditions of exchange. (L).

KUTATELADZE, S.S. Prinimala uchastiye: SHUMSKAYA, L.S., kand.tekhn.
nauk. KANAYEV, A.A., kand.tekhn.nauk, retsenzent; KATSVEL'SON,
B.D., kand.tekhn.nauk, red.; DLUGOKANSKAYA, Ye.A., tekhn.red.

[Heat transmission in condensation and boiling] Teploperedacha
pri kondensatsii i kipenii. Izd.2., dop. i perer. Moskva, Gos.
nauchno-tekhn.izd-vo mashinostr.lit-ry, 1952. 230 p.

(MIRA 12:9)

(Heat--Transmission) (Condensation) (Ebullition)

KATSNEL'SON, B.D., kandidat tekhnicheskikh nauk.

Coal dust combustion subjected to pressure. [Trudy] TSXTI 26:
231-255 '54. (MLRA 8:2)
(Coal, Pulverized) (Combustion)

Советский научно-технический журнал
Опыт по изучению горения угольной пыли под давлением

POMERANISEV, V. V., Cand. Tech. Sci.; KATSNELSON, B. D., Cand Tech. Sci.; SHAGALOVA, S. L.,
Cand. Tech. Sci.

"Physikalisch-chemische Gesetz-mässigkeiten der Verbrennprozesse von natürlichen
Brennstoffen," List of General Reports and Papers presented at the Fifth World Power
Conference, Vienna, 10 January 1956, pg. 28.

E-2298

KATSNEL'SON, B. D., SHAGALOVA, S. L., (Masters of Science) POMERANTSEV, V. V.

"Physical and Chemical Laws of the Process of Combustion of Natural Fuel,"
paper presented at the 5th World Power Conference, Vienna, 1956

In Branch # 5

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KATSENL'SON, B.D., kandidat tekhnicheskikh nauk; SHATIL', A.A., inzhener.

Heat exchange in an air-cooled cyclone combustion chamber with
gas exhaust through the top. Teploenergetika 4 no.9:73-75 S '57.
(MLRA 10:8)

1. TSentral'nyy kotloturbinnyy institut.
(Combustion) (Furnaces)

26(1)

PHASE I BOOK EXPLOITATION

SOV/2191

Kolodtsev, Kh. I., Candidate of Physical and Mathematical Sciences,
and B.D. Katsnel'son, Candidate of Technical Sciences

Ispol'zovaniye tverdogo topliva v gazoturbinnykh ustanovkakh (Use
of Solid Fuel in Gas-Turbines) Moscow, 1958. 85 p. (Series:
Energeticheskaya promyshlennost') Errata slip inserted.
3,000 copies printed.

Sponsoring Agencies: Akademiya nauk, SSSR. Institut nauchnoy i
tekhnicheskoy informatsii. Otdel nauchno-tehnicheskoy informatsii.
Sektor energeticheskoy promyshlennosti, and USSR. Soviet Ministrov.
Gosudarstvennyy nauchno-tehnicheskiy komitet.

Ed.: Kh.I. Kolodtsev, Candidate of Physical and Mathematical Sciences.

PURPOSE: This book is intended for engineers and students investi-
gating the use of solid fuels in stationary gas-turbine units, its
gasification and combustion under different operating conditions.

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Use of Solid Fuel in Gas-Turbines

SOV/2191

COVERAGE: An attempt is made in this book to review the problem of using a solid fuel in stationary gas-turbine units and to analyze the results of investigations and developments made with a view to indicating the most promising course of further studies. The study consists of two parts: the first, written by Kh.I. Kolodtsev, deals with results of solid fuel gasification tests, and the second part, written by B.D. Katsnel'son, deals with combustion of pulverized fuel in gas-turbine units. The authors point out that electric power stations using Soviet manufactured gas-turbine units are now quite common. The necessity of making further studies on the possibilities of operating solid fuel gas turbines is emphasized. Different methods of solid fuel gasification as well as various types of gas generators are described. The great importance of widening the range of fuels which could be used in gas turbine units is pointed out and efforts which have been made to utilize low quality pulverized fuel in gas generators are outlined. The book contains a number of flow charts, gas generator designs, and graphs. No personalities are mentioned. There are 36 references: 24 Soviet, 10 English, 1 German, and 1 French.

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Use of Solid Fuel in Gas-Turbines

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KATSNEL'SON, B.D.

KALISHEVSKIY, L.L.; KATSNELLSON, B.D.; KNORRE, G.F.; MIRONOV, B.M.; NADZHAROV, M.A.; NAKHAPETYAN, Ye.A.; SAKHAROV, V.M.; KHVOSTOV, V.I.; KORIKOVSKIY, I.K., red. izd-va; VORONIN, K.P., tekhn. red.

[Cyclone furnaces] TSiklonnye topki. Pod obshchey red. G.F. Knorre i M.A. Nadzharova. Moskva, Gos. energ. izd-vo, 1958. 215 p.
(Furnaces, Heat treating) (MIRA 11:7)

KATSNEL'SON, B.D.

b3,4

PHASE I BOOK EXPLOITATION 1053

Voprosy aerodynamiki i teploperedachi v kotel'no-topochnykh protses-sakh; sbornik statey (Aerodynamic and Heat Transfer Problems in Boiler and Furnace Processes; A Collection of Articles) Moscow, Gosenergoizdat, 1958. 329 p. 6,000 copies printed.

Ed. (title page): Knorre, G.F.; Ed. (inside book): Borishanskiy, V.M.; Tech. Ed.: Zabrodina, A.A.

PURPOSE: The book is intended for engineers and combustion specialists concerned with the design and operation of heating equipment and it is also for scientific workers and students of vtuzes.

COVERAGE: The book presents the results of complex investigations of flow conditions and heat transfer in boiler and furnace processes. The compilation consists of three parts which discuss the conditions of atomization and combustion of liquid fuel, some problems of heat transfer and flow in furnaces and boilers and, finally, the results of investigations of the flow and heat transfer in a

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Aerodynamic and Heat Transfer (Cont.) 1053

layer of crushed material. The articles in the first part present the fundamental principles for calculating the atomization process in injectors. Also, new data on the combustion of droplets of heavy liquid fuel are given which make it necessary to reconsider the accepted concept that vaporization of a liquid fuel always precedes its combustion. The reports of the second part throw light on the problem of the motion of a dusty air stream characteristic of cyclonic furnaces. This problem is extremely important in the design of such furnaces. The second part of the collection presents data necessary for the calculation of the emission of fly ash whereby it is shown that this emission is of great significance. In addition, the character of furnace temperature fields is analyzed. The articles of the third part present the fundamental laws of gas flow through a layer of fuel and give the theoretical principles necessary for calculating the aerodynamic resistance of the layer and the speed of drying in it. The data given in the collection accurately define current ideas regarding the characteristics of development of a number of phenomena which form the

Card 2/7

Aerodynamic and Heat Transfer (Cont.) 1053

heating process. Knowledge of these data will permit refining the calculation methods used in heating technology. The first part contains 2 Soviet references; the second part contains 8 Soviet, 3 English, and 1 German reference; and the third part contains 49 Soviet, 12 English, 7 German, 1 French, and 2 Japanese references.

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Aerodynamic and Heat Transfer (Cont.) 1053**THIRD PART. INVESTIGATION OF AERODYNAMICS AND TRANSFER IN FILLED CROSS SECTIONS (LOOSE AND CLUSTERED MATERIAL)**

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AVAILABLE: Library of Congress

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A052/A002

11-74/10

Translation from: Referativnyy zhurnal, Elektrotehnika, 1959, No. 16, p. 21,
33517

AUTHORS: Vitman, L.A., Katsnel'son, B.D., Efros, M.M.

TITLE: Spraying Liquid Fuel With Pneumatic Nozzles

PERIODICAL: V sb.: Vopr. aerodinamiki i teploperedachi v kotel'notepochn. protsessakh. Moscow-Leningrad, Gosenergoizdat, 1958, pp. 5-34

TEXT: A criterion dependence for determining the average diameter of drops of a sprayed jet was obtained, based on application of the theory of similitude to the problems of spraying viscous liquid in pneumatic sprayers. To study the effect of viscosity on the degree of fuel dispersion special experiments were carried out on a laboratory apparatus on which the following liquids were investigated: 5 different solutions of glycerin, with water, kerosene and benzine, for which the viscosity was changed from 1 to 50 Engier degrees and the surface tension coefficient from $2.4 \cdot 10^{-3}$ to $7.2 \cdot 10^{-3}$ kg/m. Formulas for dependences obtained in the above experiments were derived. With these formulas it was not possible to establish the changes of the drop diameter along the jet.

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Spraying Liquid Fuel With Pneumatic Nozzles

83865
S/112/59/000/016/006/054
A052/A002

On a special stand, five principal industrial-type sprayers were investigated: ГТС - ФДБ - 1 (STS-FDB-1), ГТС - ФОВ - 2 (STS-FOB-2), ГТС - ФДМ - 1 (STS-FDM-1),¹⁹ Glushakov's and a 2-stage nozzle. The experiments with all nozzles were carried out at their rated efficiency. On the basis of these experiments a recommendation concerning operational characteristics was worked out and an evaluation of the quality of sprayers was made. Some changes of the design of the tested sprayers were suggested. A formula for determining the degree of uniformity of drops (distribution by dimensions) was given.

S.M.Sh.

Translator's note: This is the full translation of the original Russian abstract.

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S/112/59/000/016/005/05⁴
A052/A002

Translation from: Referativnyy zhurnal, Elektrotehnika, 1959, No. 12, p. 18,
33494

AUTHORS: Ivanov, Yu.V., Katsnel'son, B.D., Pavlov, V.A.TITLE: Aerodynamics of the Turbulence ChamberPERIODICAL: V sb.: Vopr. aerodinamiki i teploperedachi v kotel'no-topocheskikh protsessakh, Moscow-Leningrad, Gosenergoizdat, 1958, pp. 100-11⁴ X

TEXT: Investigations of the flow aerodynamics have been carried out on an air model of a turbulence chamber with a diameter $D_c = 710$ mm and a height of 250 mm at different diameters of the chamber outlet D_o and at different dimensions of the inlet slots. It has been established that circumferential velocities in a turbulence chamber with tangential air feed increase over the entire height up to a certain maximum as the radius decreases. On the contrary, in the axial zone of the chamber, the circumferential flow velocity increases from zero on the axis to the above-mentioned maximum of the circumferential velocity as the radius increases. The circumferential flow velocity ($W\varphi$) in the turbulence chamber at a radius r is determined by the relation $W\varphi = r^k = C$, where C and k

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A052/A002

Aerodynamics of the Turbulence Chamber

are values depending on the chamber design. Axial velocities in the chamber over the ring adjoining the outlet are directed towards the flow outlet, the zone of the flow near the axis is directed towards the inside of the chamber. As the relation $\frac{D_o}{D_k}$ decreases, the maximum circumferential and axial velocities of the reverse stream increase. A change in the height of the air feed at a constant area of slots (other conditions being equal) does not influence the character and magnitude of circumferential velocities. The resistance coefficient of the chamber depends to a great extent on the relations

$$\frac{D_o}{D_k} \text{ and } \frac{b}{D_k}$$

(b is the width of the inlet slot) and decreases sharply when they increase. X

B.I.L.

Translator's note: This is the full translation of the original Russian abstract.

Card 2/2

BOGDANOV, L.A., inzh; KATSNEL'SON, B.D., kand. tekhn. nauk.

Testing vertical cyclone combustion chambers equipped with liquid
slag removal and air cooling [with summary in English] Teploenergetika
5 no.11:14-20 N '58. (MIRA 11:11)

1. TSentral'nyy kotloturbinnyy institut.
(Boilers) (Combustion research)

KATSNELSON, B. D.

PAGE I BOOK EXPIRATION: SOV/5-29

Sovzashchadnye po Elektricheskoy promst. Alma-Ata, 1956

Trudy Sovershcheniya po Elektricheskoy promst. i Alm-Ata, 23-26 oktyabrya 1956 g. (Transactions of the Conference on Applied Gas Dynamics, Held in Alma-Ata, 23-26 October 1956) Alma-Ata, Izd-vo Nauk. Karazhalyayev ShS, 1959. 255 p. Errata slip inserted. 900 copies printed.

Sponsoring Agency: Akademii nauk Karazhalyayev ShS. Karazhalyayev ShS. universitet imeni S.M. Kirova.

Tutorial Board: Bers, Ed.; L.A. Vilkis; V.P. Kasharov; T.P. Leont'ev and B.P. Ustimenko, Ed.; V.V. Aleksandrovskiy. Tech. Ed.: Z.P. Korobkin.

PURPOSE: This book is intended for personnel of scientific research institutes and industrial enterprises in the field of applied fluid mechanics, and may be of interest to students of advanced courses in the field.

Transactions of the Conference (cont.)

COVERAGE: The book consists of the transcriptions of 31 papers read at the conference on gas dynamics which was convened under the initiative of the Karazhalyayev ShS. universitet imeni S.M. Kirova (Karazhalyayev ShS. Institute of Power Engineering), the Institute energetiki Akademii nauk Karazhalyayev ShS. (Institute of Power Engineering of the Academy of Sciences Karazhalyayev ShS) and held October 23-26, 1956. Three branches of applied gas dynamics were discussed, namely: jet flow of liquids and gases, aerodynamics of furnace processes, and the dynamics of liquids. The practical significance of the transactions of the conference consists in the adaptation of theory to methods of technical investigation and measuring methods related to industrial furnaces and other industrial processes in which aerodynamic phenomena play a predominant role. Eight papers read at the Conference are not included in this collection for various reasons. The authors of the missing papers are: I.D. Lvov (Thermal and Aerodynamic Characteristics of Pulverized Coal Flame Burners) and A.N. Golovarev (Burners and Physical Models of the Jet Motion Mechanics of Fluids). K.I. Akhiezer, Ye. P. Bogolyubov, B.V. Bulman, T.K. Vilkov, A.B. Berzinov, and G.V. Yelashov, L.O. Kostyukov, 1956, mentioned as being in charge of a department of the Karazhalyayev ShS. university, and I.D. Volynov, candidate of Physical and Mathematical Sciences, Doctor, as a member of the same university. References are found at the end of

Session of October 26, 1956 (Mazurin)

Antonov, G.S. Investigation Turbulence Characteristics of a Free Isobaric Jet and an Open Flame

Kasharov, V.P. [Condensation of Physical and Mathematical Sciences], On Parallel and Contrary Motion of Two Uniform Fluxes of Compressible Gas

Transactions of the Conference (cont.)

Leont'ev, T.P. [Buildings of Technical Interest], "Formation of Axially Symmetric Jets in Parallel and Contrary Flows

Bulman, S.Y. Regularity of Motion and Combustion of Coal Particles

Kazantsev, M.N., and E.I. Polistek. On the Crisis in the Viscous Flow of Gas in a Plane Parallel Channel

Contents of the Discussion in Brief

Session of October 26, 1956 (Dyurov)

Tsvetkov, K.I. Expansion of an Axially Symmetric Jet of Gas in a Medium of Different Density

Chebyshov, P.V. [Geodesy, Electromechanics, Institute (All-Union Electrotechnical Institute)], Electrohydrodynamics and Their Use in Investigating Compressible Gas Flows

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SOV/96-59-9-7/22

AUTHORS: Katsnel'son, B.D. (Candidate of Technical Sciences) and
Shatil', A.A. (Engineer)

TITLE: An Investigation of an Experimental, Horizontal, Cyclone
Combustion Chamber with Air Cooling

PERIODICAL: Teploenergetika, 1959, Nr 9, pp 39-46 (USSR)

ABSTRACT: Cyclone-type combustion chambers with liquid slag removal appear the most promising for burning solid fuel for gas turbines working on an open cycle. The Central Boiler Turbine Institute has studied vertical cyclone type combustion chambers burning coal dust with a view to their use on open-cycle gas turbines. An object of the work was to determine the possibility of using a horizontal cyclone combustion chamber with an open-cycle gas turbine and to obtain design and operating data. The combustion chamber was installed on a test rig that is illustrated diagrammatically in Fig 1. The diameter of the combustion chamber was 600 mm, the length of the cylindrical part 850 mm and the diameter of the outlet throat 240 mm.; a number of other constructional details are given. The tertiary air used to cool the combustion chamber walls is afterwards mixed with the exhaust gases and reduces their temperature to 700-750 °C in the throat of the chamber.

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An Investigation of an Experimental, Horizontal, Cyclone
Combustion Chamber with Air Cooling

Hence, the gases pass to an air heater in which the secondary air is heated to a temperature of 350-400 °C. There is no ash arrester on the test rig and so a steel screen was installed to trap enough ash to prevent excessive damage to the air heater. Liquid slag retained in the combustion chamber drains off and falls into water from which it is periodically removed. The slag tap hole is heated by some gas from the combustion chamber. To ensure uniformity of delivery the coal was supplied through a worm conveyor. Coal dust delivered at the rate of 150-250 kg/hr is taken up by the primary air and may be delivered either through a burner on the central axis of the combustion chamber or through one of several slits round the end. Previous work has usually shown that axial delivery of coal dust did not give good results, tangential delivery being necessary to obtain satisfactory combustion and ash removal in horizontal cyclone combustion chambers. The tests were made with Donets gas coal, the characteristics of which are given. Data on the viscosity of the ash of two grades of coal used as

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SOV/96-59-9-7/22

An Investigation of an Experimental, Horizontal, Cyclone Combustion Chamber with Air Cooling

function of temperature are noted in Table 1. The principal test results are given in Table 2; all of them relate to steady operating conditions after adjustments had been made. However, the table does include data on some of the preliminary tests to determine how best to deliver the fuel to the chamber. Delivery through certain slits did not give the best combustion but it was particularly stable. The most satisfactory results were obtained with delivery through two of the slits; one arrangement of slits gave stable but very incomplete combustion. Axial delivery of the fuel was not satisfactory. The last test was somewhat special, the fuel being Vorkuta coal ground to 69% residue on 75 mesh sieves. The main characteristics of this coal are given. The results were much better than when burning finely-milled coal, and the ash removal factor was somewhat better than 90%. There is, therefore, some reason to suppose that ash removal will be appreciably improved by using relatively coarse milling. Although the chamber was started up many times and ran at very high temperatures, it was not damaged. During the tests the wall

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An Investigation of an Experimental, Horizontal, Cyclone Combustion Chamber with Air Cooling

temperatures usually did not exceed 700 °C, though sometimes they reached 750 °C. During the tests the fuel consumption ranged from 144 to 258 kg/hr, the lower value representing the minimum rate for stable combustion and the upper being limited by the draught facilities available. Mechanical under-combustion, that is, fuel actually left unburned, ranged from 1.17 to 10.7%, and was greater than 6% in about half the tests. This figure is high because the chamber is small and the rating relatively low. Increasing the coarseness of milling reduces the mechanical under-combustion, as will be seen from the graph plotted in Fig 2. Differences between this effect in horizontal and vertical combustion chambers are discussed. The amount of unburned fuel emitted with the exhaust remained approximately constant, most of the variation being in the amount contained in the slag. The graph plotted in Fig 3 shows the particle size composition of the coal dust and of the ash blown out through the exhaust in a particular test. It will be seen that particle sizes above 20 microns (which are the most

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dangerous for the gas turbine) constitute about 85% of the initial fuel but only 13% in the ash. In the tests with coal dust the slag removal factor ranged from 69 to 90%, and in the test with coarse milling it was greater than 90%. The graph of slag removal factor as a function of fineness of milling, given in Fig 4, shows that very fine milling is unfavourable. The same factor is plotted against the thermal loading of the combustion chamber in Fig 5, and shows that slag removal tends to be less satisfactory at low combustion rates. In the tests 12 samples of slag and ash were taken every hour. The slag flowed continuously for the eight hours of the test. The results are plotted in Fig 6 from which it will be seen that the slag removal factor in this test was about 80%. The air resistance of the chamber increased during the test because of the unsatisfactory operation of the outlet throat, which needs modification. The excess air factor in the combustion chamber ranged from 1.06 to 1.42. It will be seen from the graph plotted in Fig 7 that the least mechanical under-combustion corresponded to an excess air factor of 1.15 to 1.35. In some tests gas

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An Investigation of an Experimental, Horizontal, Cyclone Combustion Chamber with Air Cooling

analyses were made across the diameter and along the length of the combustion chamber and the results are given in Fig 8. These tests confirmed the importance of the mixing effect of the outlet throat constriction in ensuring that all the gas is fully oxidised. Graphs of the temperature distribution across two sections of the combustion chamber are shown in Fig 9, at distances of 150 mm and 450 mm from the top of the chamber. It will be seen that the flame temperature differs little across the chamber and is of the order of 1500-1600 °C.

Circumferential and axial gas speeds across three sections in the chamber are plotted in Fig 10. Graphs of the resistance of the secondary air duct as a function of the aperture of the slits are plotted in Fig 11. Data on the resistance of the secondary air duct including the resistance of the grid and mixing chamber are given in Table 2, which also includes air speeds in the slits. The above results show that a horizontal pulverized-fuel

Card 6/7 cyclone combustion chamber with air cooling and liquid slag removal can be used in open-cycle gas turbines.

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An Investigation of an Experimental, Horizontal, Cyclone Combustion Chamber with Air Cooling

The best combustion and slag removal is obtained with coarsely-milled fuel. Further investigations may show how far the increase in resistance that inevitably accompanies coarse milling is economically justified by reduction in milling costs and improvement in operating characteristics.

Card 7/7 There are 11 figures, 2 tables and 9 references, of which 8 are Soviet and 1 English).

ASSOCIATION: Tsentral'nyy kotloturbinnyy institut
(Central Boiler Turbine Institute)

S/124/61/000/011/038/046
D237/D305

AUTHOR: Katsnel'son, B.D.

TITLE: Investigating particle combustion and a solid fuel jet under laboratory conditions

PERIODICAL: Referativnyy zhurnal, Mekhanika, no. 11, 1961, 106,
abstract 11B700 (Sb. 3-ye Vses. soveshchaniye po teo-
rii goreniya v. 1, M., 1960, 107 - 114)

TEXT: The method is given of determining the amount of consumed fuel along the length of the jet. It was shown that contrary to accepted beliefs evaporation and combustion of volatile components continue to take place till the burn out, while combustion of coke starts shortly after conflagration and continues with the combustion of volatiles, lagging slightly behind them. The above results were obtained during experiments with the jet, and confirmed in investigation on individually burning particles. The volume concentration of hydrogen in combustion chamber can be increased by an increase of pressure in the combustion chamber or, by enrichment of

Card 1/2

Investigating particle combustion ...

S/124/61/000/011/038/046
D237/D305

the mixture with it. In the first case specific surface combustion velocity increases for cokes and coals with low content of volatiles and falls with a pressure increase for coals with a high content of volatiles. The last fact can be explained by the diminution of velocity of evaporation and conflagration of volatiles with rise of pressure, and by possible cracking of some of them. In the second case, combustion is nearly proportional to the % content of hydrogen. An occurrence was noted of a maximum of specific surface combustion velocity w.r. to the fuel particle size. For the anthracite and electrode carbon the maximum is observed for the particle size of 0.3 - 0.4 mm. Obtained were kinetic combustion characteristics for the series of coals as well as for the oxidation of carbon to CO_2 and CO . For the furnace with dry slag removal and coals with low content of volatiles, air temperature can with advantage be raised to 350°C or more while with coals of high content of volatiles, 200°C is sufficient. [Abstractor's note: Complete translation].

Card 2/2

31589
S/124/61/000/011/040/046
D237/D305

11.7420
AUTHORS: Katanel'son, B.D., Paleyev, I.I., and Tyul'panov, R.S.

TITLE: On the influence of turbulence on the mechanism of heat and mass exchange between the stream and the particles

PERIODICAL: Referativnyy zhurnal, Mekhanika, no. 11, 1961, 111, abstract 11B729 (Sb. 3-ye Vses. soveshchaniye po teori gorenija, v. 2, M., 1960, 115 - 122)

TEXT: Experiments were performed on determining the sublimation velocity of stationary spheres of naphthalene of diameters 1.5 - 3.5 mm in a turbulent air stream of $T = 20^{\circ}$. Stream velocity was 10 - 35 m/sec⁻¹. Experimental set-up and the method of conducting the experiment are described. Turbulence intensity ϵ ($0.04 \leq \epsilon \leq 0.14$) was varied by masking the walls with a layer of sand of different particle size on adhesive support, and was measured with a thermoparticle. The scale of turbulence exceeded the diameter of the spheres. It was found that the influence of turbulence was significantly higher than that found by other authors, whose scale of Card 1/2.

On the influence of turbulence ...

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S/124/61/000/011/040/046
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turbulence was smaller than the diameter of the spheres. For $100 \leq R \leq 2600$ diffusive Nusselt number was found to be $N \approx 2.8 (\varepsilon R)^{0.5}$. This formula, however, is not in agreement with the conclusion reached in this work that the influence of turbulence is higher for the lower relative velocity. 6 references. [Abstractor's note: Complete translation].

Card 2/2

KATSNEL'SON, B.D.; MARONE, I.Ya.

Rate of motion of carbon particles [with summary in English].
Inzh.-fiz. zhur. 4 no.3:123-126 Mr '61. (MIRA 14:8)

1. TSentral'nyy kotloturbinnyy institut im. I.I. Polzunova,
g. Leningrad.
(Coal, Pulverized)

KATSNEL'SON, B.D., kand.tekhn.nauk; BOGDANOV, L.A., inzh.

Distributed air intake in a vertical cyclone combustion chamber.
Energomashinostroenie 7 no.4:14-17 Ap '61. (MIRA 14:7)
(Furnaces)

KATSNEL'SON, B.D., kand.tekhn.nauk; MARONE, I.Ya., inzh.

Ignition and combustion of coal dust. Teploenergetika 8 no.1:
30-33 Ja '61. (MIRA 14:4)

1. TSentral'nyy kotloturbinnyy institut.
(Furnaces) (Coal, Pulverized)

KATSNEL'SON, Boris Davidovich; KORCHUNOV, Yury Nikolayevich; LIVEROVSKIY,
Aleksey Alekseyevich; POMERANTSEV, Viktor Vladimirovich, doktor
tekhn.nauk, prof.; SIKHIM, Leonida Mikhaylovna; TISHCHENKO,
Dmitriy Vyacheslavovich; TSISKHA, Elio Markovich; SHMULEVSKAYA,
Esfir' Ionovna; POMERANTSEV, V.V., red.; ZHITNIKOVA, O.S., tekhn.
red.

[Layer methods of the use of fuel as a source of power and
chemicals] Sloevye metody energokhimicheskogo ispol'zovaniia
topliv i chelya [Ed.] B.D.Katsnel'son i dr. Moskva, Gosenergoizdat, 1962.
186 p. (MIRA 15:9)

(Fuel) (Chemicals)

PHASE I BOOK EXPLOITATION

SOV/6121

Vitman, Lyudmila Aleksandrovna, Boris Davidovich Katsnel'son, and Il'ya Isaakovich Paleyev

Raspylivaniye zhidkosti forsunkami (Spray Atomization of Liquids). Moscow, Gosenergoizdat, 1962. 263 p. Errata slip inserted. 6000 copies printed.

Ed. (Title page): S. S. Kutateladze; Tech. Ed.: Ye. M. Soboleva.

PURPOSE: This book is intended for technical personnel and senior students in schools of higher technical education engaged in the design and construction of power and spray installations.

COVERAGE: Regularities of liquid-jet disintegration and a generalization of experimental data on atomization of liquids are presented. Descriptions and basic characteristics of various types of atomizers are given and some examples of atomizer design are presented. Combustion of a single droplet and of a liquid-fuel spray is studied. There are 147 references: 109 Soviet, 37 English, and 1 French.

Card 1/ /

KATSNEL'SON, B.D., kand.tekhn.nauk; MARONE, I.Ya., inzh.

Determination of total kinetic characteristics of the combustion
of pulverized coal. Teploenergetika 10 no.1:26-28 Ja '63.
(MIRA 16:1)

1. TSentral'nyy kotloturbinnyy institut.
(Coal, Pulverized--Thermal properties)

S/096/63/000/004/009/010
E194/E455

AUTHORS: Paleyev, I.I., Doctor of Technical Sciences, Professor,
Katsnel'son, B.D., Candidate of Technical Sciences,
Tarakanovskiy, A.A., Engineer

TITLE: An investigation of the processes of heat and mass transfer in a pulsating flow

JOURNAL: Teploenergetika, no.4, 1963, 71-74

TEXT: Because of its practical importance the influence of velocity pulsation on heat and mass transfer in a liquid was studied. Heat transfer was studied between a cylinder and a liquid; mass transfer between a sphere and a liquid. The liquids used were water and kerosene. The cylindrical piston was made of heating element and was fitted with surface thermocouples. The bath in which it was located could be rotated so that the rod past the cylinder. The rod was made to pulsate by a suitable drive from an electric motor. With pulsation, the heat-transfer rate could be as much as 5 times greater than without. The following expression was used to generalize the experimental data

Card 1/4
$$\frac{Nu'}{Nu} = 0,95 \frac{Re + Re'}{Re} \approx 1 + \frac{Re'}{Re}$$

An investigation of ...

S/096/63/000/004/0.9/010
E194/E455

This formula is valid for the range $\frac{Re + Re'}{Re}$ from 1.5 to 5.

With the initial pick-up, failure occurred at frequencies above ~ 70 c/s. Accordingly, special tests were made with small frequency picks-ups and it was found that the curve of heat-transfer coefficient vs. frequency was peaked, with a clearly expressed minimum. In some cases as many as 5 or 6 peaks were observed but they could not be measured accurately because of scatter of experimental data. The peaking could not be explained by regular periodic oscillations and saturation of the boundary layers. Non-linear effects, such as the great changes in the configuration of the heat-exchange vector diagram, and the shape of the heat-transfer coefficient as a function of the λ number. Studies were also made of the transfer of heat by convection within the tube.

In the following, the test results are represented by the expression

$$\frac{Nu'}{Nu} = 1.6 \left(\frac{Gr + (Re')^2}{Gr} \right)^{1/4}$$

where t - temperature difference, β - coefficient of temperature expansion, λ - the characteristic dimension.

Card 2/4

In investigation of ...

S/096/63/000/006/000
E194/E435

η' - kinematic viscosity of medium. The studies of mass transfer during forced motion were made with spheres of salt in a vertical column of liquid. Salt spheres of different diameters were made to fall in the tube at different rates by locating within the tube metal spheres of various diameters. At a frequency of 25 c/s the value of

$$Nu_{\text{fl}} = \frac{a_m d}{D}$$

where a_m - mass transfer coefficient, D - diffusion factor. Nu_{fl} was three times greater in the presence of pulsation than in its absence. At 25 c/s, increasing the amplitude by 1.5 orders only doubles Nu_{fl} . The mass transfer experimental results could not be expressed in criterial form. In some cases the use of pulsation could increase mass transfer rates by a factor of 5 to 6, but such increases were usually confined to a narrow band of frequency and amplitude, thus approximately repeating the main character of the heat-transfer curve. It was very difficult to obtain numerical data under these conditions. The main difficulty is the relationship between amplitude and frequency:
Card 3/4

An investigation of ...

S/096/b7/CCC/TK47
Evaluation

it is very difficult to make tests at one amplitude without
distortion. It is known that it is necessary to make
a series of measurements at different amplitudes.
Below are some of the figures.

ASSOCIATION: Tsentral'nyy kotloturbinnyy institut
(Central Boiler and Turbine Institute)

Card 4/4

KATSNEL'SON, B.D., kand.tekhn.nauk; MARONE, I.Ya., inzh.

Effect of pressure and oxygen concentration on the ignition and
combustion of small coal particles. Teploenergetika 11 no. 1:
11-15 Ja '64. (MIRA 17:5)

1. Tsentral'nyy kotloturbinnyy institut.

KATSNEL'SON, B.D., kand. tekhn. nauk; KISEL'GOF, M.L., kand. tekhn. nauk;
KLIMOV, I.I., kand. tekhn. nauk; SHAGALOVA, S.L., kand. tekhn. nauk;
REZNIK, V.A., inzh.

Safety regulations for systems operating on pulverised fuel. Teplo-
energetika 12 no.4:90-93 Ap '65.
(MIRA 18:5)

1. TSentral'nyy nauchno-issledovatel'skiy kotloturbinnyy institut
im. I.I.Polzunova, i Vsesoyuznyy ordena Trudovogo Krasnogo Znameni
teploekhnicheskiy institut imeni Dzerzhinskogo.

VITAMIN, Lyudmila Aleksandrovna; KATSNEL'SON, Boris Davidovich; PALEYEV,
Il'ya Isaakovich; KUTATELADZE, S.S., red.; SOBOLEVA, Ye.M., tekhn.red.

[Atomization of liquids by spray nozzles] Raspylivanie zhidkosti
forsunkami. Pod red. S.S.Kutateladze. Moskva, Gosenergoizdat,
1962. 263 p.

(Atomization) (Combustion)

(MIRA 15:7)

28(3)

S/028/60/000/02/004/024
D041/D002

AUTHOR: Katsnel'son, B.Kh.

TITLE: Normalizing and Standardizing the Elements of Electric Vacuum Devices

PERIODICAL: Standartizatsiya, 1960, Nr 2, pp 13-15 (USSR)

ABSTRACT: There are at present more than 120 standards and approximately 100 plant standards ("normal") for products of the electric vacuum industry, their elements, special materials, etc., over 40 of them for parts and component units of instruments. On the whole, the standardization covers mass products, such as electron tubes of small and medium capacity, thyratrons, current and voltage stabilizers, TV picture tubes, X-ray tubes, filament and luminescent lamps. At the same time, the standards for the elements of instruments cover only the mass-produced tubes, such as miniature tubes in glass casings with plastic base, and normal light

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S/028/60/000/02/004/024
D041/D002

Normalizing and Standardizing the Elements of Electric Vacuum
Devices

bulbs. About 60% of miniature tube parts and units (bulbs, exhaust tubes, tube bases, etc) have been normalized; and systematization tables have been issued for the remaining elements, as e.g., anodes and grids. Publication Nr 67 of the International Radioengineering Commission, which fixes the overall sizes and attachment dimensions of electric vacuum devices, has been accepted by the "GOST-7842-⁵⁸" standard, and the normal "NIO.339,000" (1959). It is planned to issue from 1959 to 1965, 300 standards and plant standards, among them 100 plant standards for device elements, overall sizes, and attachment dimensions.

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Card 2/2

KATSNEL'SON, B. K.

"Diffusion Method of Investigation of Heat and Mass Transfer
Between a Particle and Pulsing Medium"

Report presented at the Conference on heat and Mass Transfer.
Minsk, USSR, 5-10 June 61

The author made the analysis of the experiments which were
carried out to find the possibility of heat and mass transfer
modification by pulsing flows or pulsating arise as a result of
turbulence intensification.

S/028/61/000/012/001/004
D221/D303

AUTHORS: Katsnel'son, B. Kh., and Karastelina, Z. S.

TITLE: On the dimensional interchangeability of electro-vacuum devices

PERIODICAL: Standartizatsiya, no. 12, 1961, 28 -34

TEXT: The newly introduced IOCT(GOST) 7842-58 "Electro-vacuum devices are very important. The disposition and assembly dimensions of pins" sets forth an equal degree of freedom in all directions for the pins in sockets. All valve manufacturing countries and the International Electrotechnical Commission prescribe pass-gauges for complex checking of conjugate dimensions of the above. The exchangeability of vacuum devices depends on the design and sizes of these gauges. The control holes as per GOST 7842-58 are of circular form. The authors indicate an analysis of comparison of rectangular or square holes, and demonstrate the ✓

Card 1/3

On the dimensional interchangeability .. S/028/61/000/012/001/004
D221/D303

advantages of the round shape. The complex gauge must also ensure the straightness and parallelism of pins. It indicates the force of pushing the gauge onto the pins, and thus prevents dangerous internal stresses in the glass base. In addition, the balloon of the valve is checked by three guide pads placed at the center of its height, to ensure parallelism with the pins and axis of the base. The quality of connection between the valve and the panel is characterized by the force of pushing in or taking out, as well as by the contact resistance. The soldering of leads prevents flotation of pin contacts and therefore, the effort of mounting a valve is increased. Measurements have confirmed the increase in force required for pressing in the valve after soldering. The authors propose the following to ensure a reliable connection and interchangeability: Checking conjugated sizes by complex gauges. The deviation in the angle between different pins should be within $\pm 15^\circ$. The force of stripping must be measured by a gauge, whose pins have a diameter of minimum valve pins. The individual contacts

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—

Card 2/3

On the dimensional interchangeability ... S/028/61/000/012/001/004
D221/D303

should be verified. In critical assemblies, the panel wiring must include dummy valves in order to hold the mean position of pin contact and ensure a certain amount of flotation. The need has arisen to elaborate a State standard for panels. There are 10 figures and 2 tables.

Card 3/3

interchangeability. Uniformity of testing conditions for tubes and transistors
is an urgent necessity if a true value of interchangeability is to be obtained.

Card 1/2

"APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000721130009-8

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L 1000-6

ASSOCIATION WITH THE COMMUNIST PARTY OF THE SOVIET UNION AND ECONOMICHESKY VZ...

ASSOCIATION: none

MEMORANDUM

DATE: 1950

Card 2/2

1000-6

APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000721130009-8"

KATS NELSON, D

cc

PROPERTIES AND PROBLEMS OF

Aluminum in cast iron for rolls. K. Dunin, D. Katsnelson and S. Rapoport. *Tsvir i Prakt. Met.* No. 6, 737 (1967). Cast iron was obtained by melting scrap rolls in a crucible furnace. Addn. of Al and subsequent pouring was done rapidly so that no substantial changes in C, Mn, Si, S and P contents could occur. The samples differed only in Al content (0.2-1.2%). Structure of samples was the same: pearlite + graphite. Addn. of Al up to 1.2% causes a decrease in grain size by four times. This decrease in grain size did not affect the hardening of the cast iron. Bending strength may, under the influence of Al, be increased by 50%. Thus in absence of Al, bending strength was 35 kg./sq. mm., but with 1.2% Al it rose to 55 kg./sq. mm. Al can also be used sometimes instead of FeSi to correct the heat. The advantages of Al are de-gassing action, reduction of grain size and the refining of graphite. Al sharply decreases the time of graphitization during the tempering of specular pig iron and it may be used to speed up the annealing and to improve the quality of malleable cast iron. H. Z. Kamleh

AMSLA METALLURGICAL LITERATURE CLASSIFICATION

EDITION 1968/1970

SEARCHED	SEARCHED AND OBTAINED	SEARCHED	SEARCHED AND OBTAINED
SEARCHED	SEARCHED AND OBTAINED	SEARCHED	SEARCHED AND OBTAINED

KATSNELSON, D

CA

PROCESSES AND PREPARATIONS

Melting of cast iron. K. P. Danin and D. Katsnelson.
Metallurg 14, No. 8, 310 (1939).— Specimens of white,
mottled and gray cast Fe (4.5-mm. cubes) were heated
to 1160°, 1210° or 1260°, held for $\frac{1}{2}$ to 21 min., and
quenched, and incipient fusion was noted by microscopic
examn. Fusion was primarily a diffusion phenomenon,
the C from the graphite or cementite diffusing into the
austenite and lowering its m. p. White cast Fe fused more
rapidly than gray as the rate of soln. of cementite in austen-
ite was greater than that of graphite at temps. slightly
above the eutectic. At higher temps. the original structure
has very little effect on the rate of fusion. H. W. R.

9

ASME SLA METALLURGICAL LITERATURE CLASSIFICATION

KATSNELSON, D.

CA

中国社会科学院·民族学与人类学研究所·民族学与人类学评论

Volume changes associated with annealing of quenched carbon steel and the nature of the third transformation R. Kaminskii and D. Katsnelson (Phys.-tech. Inst., Dnepropetrovsk). *J. Tech. Phys.*, 15, 182-92 (1945). The specific vol., v , of 8 steels contg. C 0.07-1.21, Mn 0.2-0.8, Si 0.018-0.37, P 0.006-0.28, and S 0.018-0.046, were dectd. at 20° in C_2H_5OH . The v of quenched-steel (from 900-1000°) increases linearly with the C content, v , up to $v = 0.91$. At $c = 0.07$ and 0.89, resp., v is 0.12715 and 0.12536. Annealing affects but little the v at $c = 0.07$ and 0.11. At $c = 0.23$ annealing below 300° has no effect, but that at 300° and higher lowers v by about 0.0002. When $c = 0.3$ or more, also annealing below 300° reduces v , but the major drop of v , up to 0.0007, takes place after annealing at 300°; raising of the annealing temp. to 680° has no addnl. effect. The contraction at 300° increases linearly with c . It cannot be explained either by decompr. of the solid soln. or by filling the holes left over in quenched specimens. The vol. of these holes was varied by quenching once to room temp. and then to that of liquid O₂, without affecting the magnitude of the contraction. The contraction is due to the transformation of an Fe carbide whose compn. is unknown but whose existence is shown by x-rays, into Fe₃C. The sp. vol. of Fe₃C is 2.4% less than that of the unknown carbide. The

Percentage of C remaining in the solid soln. after annealing
is estd. from the r values. J. J. Bikerman

L. L. Hikaru

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

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APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000721130009-8"

KATSELSON D Sh

CA

The mechanism and rate of solution of steel in liquid cast iron. K. P. Bunnin and D. Sh. Katsevson. *Metallur. Del' 1939*, No. 10, 11, 15; *Khim. Referat. Zhur.* 1940, No. 4, 10; cf. *C. A.* 34, 7815. — Cast iron contg. 4.1 and 3.28% of C was used as solvent. The solutes used were electrolytic Fe, electrode Fe (C 0.051, S 0.009, Mn 0.18, S 0.009 and P 0.0009%) and steel (C 0.03, Si 0.075, Mn 0.15, S 0.048 and P 0.012%). The samples of Fe or steel were immersed for 3-15 min. in 130-200 g. of cast iron heated in a magnesite crucible in a Jannowitz oven to 1270, 1350 and 1450°; the sample was then cut and examined under the microscope. The process of dissolving solid steel in liquid cast iron consists of diffusion of C from the liquid soln. into the γ-solid soln., of diffusive decomps. of the lattice of austenite satd. with C and of diffusion of C from the basic liquid phase into the phase formed on the surface of contact of the steel and liquid cast iron.

W. R. Henn

9

ASA-11A METALLURGICAL LITERATURE CLASSIFICATION

PERLOV, P.M.; KATSNEL'SON, E.M.

Phase analysis of titanium ores. Obog. rud 4 no.6:11-13 '59.
(MIRA 14:8)
(Titanium ores--Analysis)

KATSNEL'SON, E.M.; OSIPOVA, Ye.Ya.

Improved method of determining sulfide nickel. Obog.rud 5
no.4:24-26 '60. (MIRA 14:8)
(Nickel sulfide)

KATSNEL'SON, E. Z.

PHASE I BOOK EXPLOITATION

SCV/2893

Vsesoyuznoye soveshchaniiye po fizike, fiziko-khimicheskim svoystvam ferritov i fizicheskim osnovam ikh primeneniya. 3d. Minsk, 1959
 (Ferrites: Physical and Physicochemical Properties. Report)
 Minsk, Izd-vo AN BSSR, 1960. 659 p. Errata slip inserted.
 4,000 copies printed.

Sponsoring Agencies: Nauchnyy sovet po nauchno-tekhnicheskym issledovaniyam po fizike i poluprovodnikov AN BSSR. Ordin

Editorial Board: Resp. Ed.: M. M. Sirota, Academician of the Academy of Sciences BSSR; K. P. Balov, Professor; Ye. I. Kondratenko, Professor; E. M. Polivanov, Professor; R. V. Tselemin, Professor; G. A. Smolenskiy, Professor; N. M. Shol'ts, Candidate of Physical and Mathematical Sciences; E. M. Smolyanenko and L. A. Bashkirev, Eds. of Publishing House: S. Kholyavskiy, Tech. Ed.; I. V. Volokhanovich.

Purpose: This book is intended for physicists, physical chemists, radio electronics engineers, and technical personnel engaged in the production and use of ferromagnetic materials. It may also be used by students in advanced courses in radio electronics, physics, and physical chemistry.

Coverage: The book contains reports presented at the Third All-Union Conference on Ferrites held in Minsk, Belorussian SSR. The reports deal with magnetic transformations, electrical and galvanomagnetic properties of ferrites, studies of the growth of ferrite single crystals, problems in the chemical and physicochemical analysis of ferrites, studies of ferrites having a two-singular-hysteresis loop and multicompONENT ferrites exhibiting spontaneous rectangularity, problems in magnetic ferronuclear resonance, magneto-optical physical principles of using ferrite components in electrical circuits, magnetometry of electrical and magnetic properties, etc. The Committee on Kagomé (S. V. Yonovskiy, Chairman) organized the conference. References accompany individual articles.

Ferrites (Cont.)

SCV/2893

- Sirota, N. M. and E. Z. Katnel'son. Temperature Dependence of the Magnetic Permeability of Nickel-Zinc Ferrites 242
- Moshkin, D. D., M. T. Plastun, and E. M. Adzhurishch. Temperature Magnetic Hysteresis in Nickel-Zinc Ferrites 249
- Moshkin, D. D., I. V. Mikandzha, and T. I. Bychkova. The Effect of Omnidirectional Compensation and Temperature on the Magnetooptical Properties of Nickel-Calc Ferrites 253
- Kulinich, Ya. P. and A. J. Mil'ner. Magnetic Anomalies of Iron and Cobalt Ferrites 258
- Sirota, N. M. and E. Z. Katnel'son. On the Electrical Conductance of Nickel-Aluminum-Zinc Ferrites and its Temperature Dependence 263

card 9/18

Card 9/18

KATSNEL'SON, F. YA

DECEASED

1963/3

c' 1962

BIOLOGY -
neurology, physiology

see ILC

VAYNTRAUB, I.M., inzh.; GOBZA, R.N., inzh.; KATSNEL'SON, G.A., inzh.; KRASILOV, G.I., inzh.; ORENTLIKHER, P.B., inzh.; ERLIKHMAN, S.Ya., inzh.; VOINYANSKIY, A.K., glav. red.; SOKOLOV, D.V., zam. glav.red.; TARAN, V.D., red.; SEREBRENNIKOV, S.N., red.; MIKHAYLOV, K.A., red.; STAROVEROV, I.G., red.; VOLODIN, V.Ye., red.; NIKOLAYEVSKIY, Ye.Ya., red.; SMIRNOV, L.I., inzh., nauchnyy red.; SKVORTSOVA, I.P., red. izd-va; SHERSTNEVA, N.V., tekhn. red.

[Adjusting, control, and operation of industrial ventilation systems] Naladka, regulirovka i ekspluatatsiya sistem promyshlennoi ventilatsii. Pod red. S.IA.Erlikhmana. Moskva, Gosstroizdat, 1962. 555 p. (MIRA 15:9)

1. Russia (1917- R.S.F.S.R.) Glavnaya upravleniya sanitarno-tekhnicheskogo montazha.
(Factories--Heating and ventilation)

KATSNEL'SON, G.B.

Diadynamotherapy of humeral epicondylitis. Vop. fizur.,
fizioter. i lech. fiz. kul't. 28 no.4:318-325 Jl-Ag '63.
(MIRA 17:9)
1. Iz fizioterapevticheskogo otdeleniya polikliniki (glavnyy
vraч-kand. med. nauk A.M. Shukhtina) I leningradskogo
meditsinskogo instituta imeni Pavlova.

BEDA, N.I., inzhener; KATSNEL'SON, G.M., inzhener.

Putting into practice flat-shaped ingot rolling in a thick-plate
mill. Stal' 16 no.1:36-41 '56.
(MLRA 9:5)

1. Zavod imeni Petrovskogo.
(Rolling (Metalwerk) (Steel ingots))

K - D - A - D - G - M -
PHASE I BOOK EXPLOITATION

375

Katsnel'son, Genrikh Mayorovich; Saf'yan, Matvey Matveyevich;
Chekmarev, Aleksandr Petrovich; Malyy, Georgiy Ivanovich.

Prokatka tolstykh listov s povyshennoy tochnost'yu (Rolling of
Steel Plate to Close Limits) Moscow, Metallurgizdat, 1957.
125 p. 4,000 copies printed.

Ed. (title page): Chekmarev, A. P., Active Member, Ukrainian
Academy of Sciences, Doctor, Professor; Ed. (inside book):
Pirskiy, F. N.; Ed. of Publishing House: Valov, N. A.;
Tech. Ed.: Karasev, A. I.

PURPOSE: This book is intended for engineers and technicians in
rolling mills. It can also serve as a manual for
researchers and students of vuzes.

COVERAGE: The book deals with the hot rolling of steel plate to
close limits on a three-high Lauth mill. Various factors
affecting the precision of rolled plate are discussed.
The rolling of plate is subject to variables such as:
temperature of metal, mill spring, roll design, and other
characteristics inherent in the material and equipment.

Card 1/3

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000721130009-8"

Rolling of Steel Plate to Close Limits

375

The author investigates each of these problems and advances various solutions. There are numerous diagrams and formulae. 6 Soviet references.

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AVAILABLE: Library of Congress (TS 360.C45)

Card 3/3

GO/vm
6-24-58

KATSNEL'SON, G. M.

133-2-11/19

AUTHORS: Katsnel'son, G.M. and Kravets, M.N. (Engineers)

TITLE: Prevention of Sticking of Sheets of Low Carbon Steel by
an Addition of Chromium (Predotvrashcheniye slipaniya
listov malougleredistoy stali prissadkoy khroma)

PERIODICAL: Stal', 1958, ^Nr 2, pp.156-158 (USSR)

ABSTRACT: It was established in the above works that sticking (welding) of sheets from low carbon steel during rolling on hot rolls in packettes depends to a large extent on the content of the individual elements (within the limits of standards). In particular increasing chromium content to the upper limit (0.30%) promotes the formation of scale, noticeably differing from the scale usual for low carbon steel in respect of strength of adherence to sheets. It was found that this property of the scale decreases the tendency of sheets to sticking considerably. The influence of the contents of chromium, phosphorus, $\Sigma(C + 0.25 Mn)$ and

$$\frac{Cr + 10 P}{\Sigma(C + 0.25 Mn)} \quad \text{on the proportion of defective sheets}$$

due to sticking is shown in Figs. 1, 2, 3 and 4 respectively. During smelting and teeming of rimming steel with Card 1/2

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of Prevention of Sheets of Low Carbon Steel by an
Addition of Chromium.

chromium additions, a strict maintenance of technological conditions securing normal boiling of metal in moulds is necessary. The content of sulphur below 0.04% improves boiling and the structure of the ingot head. With increasing chromium content to the upper limit (0.03%) permitted by GOST 380-50 in order to maintain normal boiling of steel the content of manganese should be kept at the lower limit. In order to decrease chromium losses it is advantageous to add ferrochromium to the ladle. An increase in the phosphorus content to the upper limit decreases the tendency of thin sheets to sticking during rolling in packettes. As an index of the tendency of metal to welding on rolling the following expression can be used: $\frac{Cr + 10 P}{\Sigma(C + 0.25 Mn)}$ which should

not be lower than 2. There are 4 figures.

ASSOCIATION: Works imeni Petrovskiy (Zavod im. Petrovskogo)

AVAILABLE: Library of Congress.

Card 2/2

KATSNEL'SON, G.M., kand.tekhn.nauk

Efficiency of universal sheet rolling mill stands [with summary
in English]. Stal' 21 no.3:246-249 Mr '61. (MIRA 14:6)

1. Zavod im. Petrovskogo.
(Rolling mills)

KATSNEL'SON, G.M., kand.tekhn.nauk

Use of steel rolls with hard facing on Lauth three-high plate
mills. Stal' 21 no.10:921-924 O'61. (MIRA 14:10)

1. Zavod im. Petrovskogo.
(Rolls (Iron mills))

KATSNEL'SON, G.M., kand.tekhn.nauk

Plate mill roll grooving. Stal' 22 no.1:48-50 Ja '62. (MIRA 14:12)
(Rolls (Iron mills))

KATSNEL'SON, G. M.

(40)

PHASE I BOOK EXPLOITATION SOV/6044

Rokotyan, Ye. S., Doctor of Technical Sciences, Ed.
Prokatnoye proizvodstvo; spravochnik (Rolling Industry; Handbook)
v. 2. Moscow, Metallurgizdat, 1962. 685 p. 8500 copies
printed.

Authors: P. A. Aleksandrov, Doctor of Technical Sciences;
V. P. Anisiforov, Candidate of Technical Sciences; V. I. Bayrakov,
Candidate of Technical Sciences; N. V. Barberich, Candidate
of Technical Sciences; B. P. Balashov, Candidate of Technical
Sciences [deceased]; B. A. Bryukhanenko, Candidate of Economic
Sciences; N. V. Vasil'chikov, Candidate of Technical Sciences;
A. I. Vitkin, Doctor of Technical Sciences; S. P. Granovskiy,
Candidate of Technical Sciences; P. I. Grudev, Candidate of
Technical Sciences; I. V. Gunin, Engineer; M. Ya. Dzugutov,
Candidate of Technical Sciences; V. G. Drozd, Candidate of
Technical Sciences; N. F. Yermolayev, Engineer; G. M. Katsnel'son,
Candidate of Technical Sciences; M. V. Kovynnev, Engineer;
M. Ye. Kugayenko, Engineer; N. V. Litovchenko, Candidate of
Technical Sciences; Yu. M. Matveyev, Candidate of Technical
Sciences;

Card 1/4

(46)

Rolling Industry; Handbook

SOV/6044

Sciences; V. I. Melenshko, Candidate of Technical Sciences; N. V. Melkov, Engineer; A. K. Ninburg, Candidate of Technical Sciences; V. D. Nosov, Engineer; B. I. Panchonko, Engineer; O. A. Plyatskovich, Candidate of Technical Sciences; I. S. Pobedin, Candidate of Technical Sciences; I. A. Priymak, Professor, Doctor of Technical Sciences [deceased]; A. A. Protasov, Engineer; M. N. Safryan, Candidate of Technical Sciences; N. N. Fedosov, Professor; S. N. Filipov, Engineer [deceased]; I. N. Filippov, Candidate of Technical Sciences; I. A. Fomichev, Doctor of Technical Sciences; M. Yu. Shifrin, Candidate of Technical Sciences; E. R. Shor, Candidate of Technical Sciences; M. M. Shternov, Candidate of Technical Sciences; M. V. Shuralev, Engineer; I. A. Tikhvets, Candidate of Technical Sciences; Eds. of Publishing House: V. M. Gorobinchenko, R. M. Golubchik, and V. A. Rymov; Tech. Ed.: L. V. Dobuzhinskaya.

PURPOSE: This handbook is intended for engineering personnel of metallurgical and machine-building plants, scientific research

Card 2/14

Rolling Industry; Handbook

SOV/6044

institutes, and planning and design organizations. It may also be used by students at schools of higher education.

COVERAGE: Volume 2 of the handbook reviews problems connected with the preparation of metal for rolling, the quality and quality control of rolled products, and designs of roll passes in merchant mills. The following topics are discussed: processes of manufacturing semifinished and finished rolled products (the rolling of blooms, billets, shapes, beams, rails, strips, wire, plates, sheets, and the drawing of steel wire), hot-dipped tin plates, lacquered plates, floor plates, tubes made by different methods, and special types of rolled products. Problems of the organization of rolling operations are reviewed, and types of rolled products manufactured in the USSR are shown. No personalities are mentioned. There are no references.

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Rolling Industry; Handbook

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1. Purpose of cold rolling	330

Card 7/14

KATSNEL'SON, G.M.

Making and delivering hot-rolled steel for reinforced-concrete
construction. Standartizatsiia 27 no.5:29-31 My '63.
(MIRA 16:6)
(Concrete reinforcement)

SAF'YAN, Matvey Matveyevich; MELESHKO, Vladimir Ivanovich; KATSNEL'SON,
Genrikh Mayorovich; GOLUBCHIK, R.M., red.; DOBUZHINSKAYA,
L.V., tekhn. red.

[Hot rolling of sheet; a handbook for metalworkers] Goria-
chaya prokatka listov; spravochnik dlja rabochikh. Moskva,
Metallurgizdat, 1963. 166 p. (MIRA 16:6)
(Rolling (Metalwork))--Handbooks, manuals, etc.)

KATSNEL'SON, G.M., kand.tekhn.nauk; RYZHOV, V.G., inzh.

Manufacture, stock taking, and delivery of medium-grade rolled products by theoretical weight. Stal' 24 no.6:530-532 Je '64.
(MIRA 17:9)

1. Zavod im. Petrovskogo.

KATSNEL'SON, G.M., kand.tekhn.nauk

Effect of the rolling system on the quality of plate steel.
Stal' 25 no.5:433-435 My '65. (MIRA 18:6)

1. Zavod im. Petrovskogo.

GAKKEL', A.G.; KATSNEL'SON, G.N.

Dynamometer for determining variable forces occurring in a moving
flexible body. Zav.lab. 22 no.1:120-121 '56. (MLRA 9:5)

1. Leningradskiy institut kinoinzhenerov.
(Dynamometer)

GURVICH, Yu.V.; KAPLAN, D.A.; KATSNEL'SON, G.N.

Analysis of the productivity of slitters. Bum.prom. 36 no.2:22-
24 F '61. (MIRA 14:2)

1. TSentral'nyy nauchno-issledovatel'skiy institut po proyektirovaniyu bumagodelatel'nykh mashin.
(Papermaking machinery)

GURVICH, Yu.V.; KAPLAN, D.A.; KATSNEL'SON, G.N.; NIKHAMKIN, E.A.

Effect of basic parameters on the production capacity of a slitter.
Bumagodel.mash. no.9:155-172 '61. (MIRA 15:1)
(Papermaking machinery)

KATSNEL'SON, G.N.

New developments in the design of slitters. Bumagodel. mash. no.11:
25-31 '63.

General analysis of the paper sheet tension on reeling machines.
Ibid.:32-40

Testing in the "Pommunar" Paper Factory of the bobbin slitter
manufactured by Larenberg (German Federal Republic). Ibid.:41-43

Theoretical studies related to the design and construction of
supercalenders. Ibid.:44-70 (MIRA 17:6)

KATSNEL'SON, I. A.

"Collection of Air Samples With the Help of a Filter Cartridge and Gas Mask to Detect Microflora," by I. M. Nikhinson, I. A. Katsnel'son, and R. D. Gorodetskiy, Voyenno-Meditsinskiy Zhurnal No 11, Nov 56, pp 54-55

"We proposed and tested the filter cartridge of a filtering gas mask to simplify the method of collecting air samples, especially under field conditions, for the purpose of observing microorganisms, rickettsiae, and viruses in the samples.

"The filter cartridge is a tin cylinder 1.8 cm in diameter and 2.5 cm high. The bottom of the cylinder has 10-20 openings. The other end is open.

"On the interior surface of the grid of the cartridge, a pad consisting of six layers of gauze is closely compressed by a bottomless cylinder 4.5 cm high which is set inside the first cylinder (the dimensions of the cartridge can be varied depending on the size of the openings in the casing of the gas mask). The converted filter cartridge is wrapped in paper or placed in a metal or wooden covering and sterilized.

Sum. 1345

KATSNEL'SON, I.A.

"Before collection of air samples, the sterile cartridge, removed from the paper, is set into the opening in the bottom of the gas mask housing. From 5 to 6 minutes after use of the gas mask with the filter cartridge has begun, the cartridge is removed and taken into a bacteriological laboratory. Smears are prepared from the suspension obtained by washing the six-layer gauze with physiological solution; seeding and infection of animals are carried out with the suspension.

"We conducted 95 bacteriological analyses of air in rooms of the barracks. Samples were taken while the barracks was occupied. Air was simultaneously investigated by D'Yakanov's method. A D'Yakanov flask was connected to the gas mask. A gas meter permitted us to establish the fact that a man in a gas mask equipped with a filter cartridge inhales 6 liters of air per minute. The same volume of air is inhaled if a D'Yakanov flask is attached to the gas mask. One ml of suspension was seeded on a Petri dish containing agar. The seedings afforded the growth of microorganisms encountered in the air (Sarcina, Staphylococcus, gram-positive bacilli, molds, and fungi).

"The same microorganisms were isolated from the air with the filter cartridge as were isolated when samples were collected with the D'Yakanov flask. In 22 air samples, the quantity of microorganisms was found to be greater on collection with the filter cartridge; in 53 samples, the quantity was only slightly greater than that found in samples collected by the D'Yakanov method; in 20 samples, analogous results were obtained.

Sum. 1345

KATSNEL'SON, I.A.

Fifteen air samples were taken in the barracks immediately after the personnel had arisen, and the same number were taken after the quarters had been ventilated. Ventilation decreased the microbial content of the air in the barracks 2-2.5 times.

"With the help of the filter cartridge the unit physician can check the ventilation in the barracks. The simplified method of collecting air samples can be employed for determining the species content of the microflora. We investigated the air in a laboratory box after dispersing a suspension of Staphylococcus aureus and intestinal bacilli in it. These microorganisms always infected the gauze packing of the filter. The filter cartridge can also be used expediently under field conditions in cases where rapid collection of air samples for detecting microflora is required." (U)

Sum. 1345

ZIMINA, T.A.; KATSNEL'SON, I.A.; ZHILIN, S.I. Prinimali uchastye:
KRYUKOVA, T.N., mladshiy nauchnyy sotrudnik; ROMODANOVA, R.I.,
laborant.

Phytocidal characteristics of onion, garlic, and some other
plants of Sakhalin. Izv. SO AN SSSR no.4 Ser. biol.-med.nauk
(MIRA 16:8)
no.1: 47-52'63.

1. Sakhalinskiy kompleksnyy nauchno-issledovatel'skiy institut
Sibirskogo otdeleniya AN SSSR.
(SAKHALIN-PHYTOCIDES) (SAKHALIN-ALLIUM)

KATSNEL'SON, I.A.

Use of experimental keratoconjunctivitis for the bacteriological
diagnosis of dysentery. Lab. devo [7] no.4:39-41 Ap '61.
(MIRA 14:3)

(KERATOCONJUNCTIVITIS)

(DYSENTERY)

SENCHENKO, I.F.; KUDRYASHOV, M.G.; FIALKOV, A.A.; MIFTAKHOV, F.V.;
KATSNEL'SON, I.A.

Specialization of building organizations in power-station
construction. Prom.stroi. no.10:24-27 '62. (MIRA 15:12)

1. Vsesoyuznyy institut po proyektirovaniyu organizatsiy
energeticheskogo stroitel'stva.
(Electric power plants) (Construction industry)

ABRAMOVICH, L.A.; GEFEN, G. Ye., kand. med. nauk; ZAYDENOV, A.M., kand. med. nauk; KATSNEILSON, I.A.; KIREYEVA, I.N.; KOTSAREV, V.N. SUTIN, I.A., prof. SHAPOVALOV, A.V.

Some characteristics of respiratory infections of adenovirus etiology in adults. Voen.-med. zhur. no. 1:66-68 Ja '66 (NIRA 19:2)

PODLEVSKIY, A.V.; KOGAN, V.Ya.; GORCHAKOVA, Yu.P.; YELIZAROVSKIY, G.I.;
RYABOSHAPKA, A.P.; REZNIK, S.R.; GOLUBEV, T.I.; GINTSE, L.A.;
RASKIN, M.M.; ZUYENKO, P.G.; KHOMIK, S.R.; KATSNEL'SON, I.A.;
ZHILIN, S.I.; LYSENKO, M.N.; ROMANOV, B.G.; SAVENKOV, D.A.;
GIL', L.T.; LEVINA, Ye.S.; VOVKI, A.S.; POSLEDOV, F.F.

Annotations. Zhur.mikrobiol.,epid.i immun. 32 no.12:120-125 D '61.
(MIRA 15:11)

1. Iz Leningradskogo instituta usovershenstvovaniya vrachey imeni Kirova (for Podlevskiy).
2. Iz Ukrainskogo nauchno-issledovatel'skogo instituta kommunal'noy gigiyeny (for Kogan).
3. Iz Voronezhskogo meditsinskogo instituta (for Gorchakova).
4. Iz Arkhangel'skogo meditsinskogo instituta (for Yelizarovskiy).
5. Iz Kiyevskogo instituta epidemiologii i mikrobiologii (for Ryaboshapka, Reznik).
6. Iz zavoda meditsinskikh preparatov Leningradskogo myasokombinata imeni S.M.Kirova (for Golubev).
7. Iz Gosudarstvennogo kontrol'nogo instituta meditsinskikh biologicheskikh preparatov imeni Taraseviche (for Gintse).
8. Iz Chitinskogo instituta epidemiologii, mikrobiologii i gigiyeny (for Raskin).
9. Iz Ternopol'skogo meditsinskogo instituta (for Zuyenko).
10. Iz Rostovskogo instituta epidemiologii, mikrobiologii i gigiyeny (for Khomik).
11. Iz Chelyabinskogo meditsinskogo instituta (for Gil', Levina, Vovki, Posledov).

(IMMUNOLOGY—ABSTRACTS) (EPIDEMIOLOGY—ABSTRACTS)